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GRIM FACES OF POLAND —Steelworkers rest beside their blast furnace in the nation's largest steel mill at Nowa Huta, near historic Kraków. To learn what life is like behind the Iron Curtain after 10 years of Communist control, see the next six pages of stories and pictures.

ERIC LESSING, MAGNUM

UMI

THE HAMMER AND SICKLE pressures Poland on all sides. Although always trying to extend their freedoms, Poles must be careful to avoid provoking Russia. Should they forget their position, a glance at the map reminds them. The U.S.S.R. growls on the east. To the south and west lie more tightly controlled Soviet satellites: Czechoslovakia and East Germany. The Baltic Sea, dominated by the Russian navy, washes Poland on the north.

through the Soviet satellites in 1956, culminating in the cruel crushing of Hungary, the Poles were cautious. From a bloodless revolution they now call simply "October," they wrested limited freedoms.

In the cafés of Warsaw (Warszawa), the capital, a man can denounce the regime in loud tones. But he cannot write such attacks in a newspaper. The courts have returned to a strict legality, and Poles are no longer punished for beliefs.

As one put it: "If there's a knock on the door at 4 a.m., you can be sure it's the milkman."

After being virtually sealed off from the West for 10 years, Poland has been able to open its doors a little. Americans such as Delia and Ferdinand Kuhn, reporting for the *National Geographic Magazine*, have been able to enter and move about freely.

The Kuhns met a heart-warming welcome from a people eager to renew their traditional friendship with the United States.

"Everywhere," they wrote in the September issue, "we found signs of friendliness, courtesy, and interest in our country."

Poland

Cracks the Iron Curtain

PHOTOGRAPHS BY ERIC LESSING, MAGNUM

HAILING THE HOUR from the roof of the Church of Our Lady in Kraków, a trumpeter symbolizes the indestructibility of Poland.

Poles cling to tradition and hope of freedom that centuries of foreign control —currently Russian—have not been able to kill.

The trumpet call stops in the middle of a note to remind hearers of a 13th century conquest. A Kraków trumpeter warning the people of a Mongol invasion was killed in mid-call by an arrow through his throat.

A great power from the 14th to 18th centuries, Poland has since been carved up by its neighbors five separate times. Often it has been overrun, most recently by the Germans and the Russians.

Now an "independent state," it is a satellite of the U.S.S.R. But still the freedom-loving Poles are united in remembering the past and hoping for the future.

The church that gives the trumpeter his platform serves to unite Poles in another way. Despite Communist pressure, some 95 percent of the Polish people cling to their Roman Catholic belief. A focus of their devotion is the great altar of the Church of Our Lady. It contains 446 carved wood pieces representing the life of the Virgin Mary. The close-up at left shows the face of St. John.

Like so many facets of Polish life, the altar has connections with the brutal past. When Hitler's armies knifed into the country to set off World War II, they stole the altar and hid it in Germany.

The Polish-American friendship that dates back to before there was any United States—Tadeusz Kościuszko, a young Polish engineer, joined the colonists' side to help win the American revolution—brought about the altar's return.

In 1945, American soldiers searched among the ruins of Nürnberg until they found the Nazi hiding place, and sent the altar home on a special train.

When the great wave of unrest rolled

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SIDEWALK SUPERMARKET tempts goods-hungry Poles—but at breath-stopping prices. At the official tourist rate of 24 zlotys to the dollar, this woman's Hershey bars bring $2. Nylons sell for $8 a pair. Here roasted peanuts, tooth paste, powdered milk, tea, and canned pineapple—all from the United States—compete for the attention of passers-by.

Prices are staggering for Polish purses. A set of china would be an unheard-of luxury; each plate represents almost a day's wages. A little rubber doll or a celluloid rattle would cost half a day's pay.

To buy the things they can afford, Poles must stand in queues. Long lines of drably dressed people—men reading newspapers, women with patient faces—are common in Polish cities. A line might lead to the first lemons available in six months; but other queues form simply for filling the family's daily needs: a loaf of bread, a few carrots or beans for soup, perhaps a salt herring.

After having tasted nothing but coffee substitute, made from grain, for days, the Kuhns stood in line for a two-ounce tin of real powdered coffee. Their prize cost them $4.

For extravagance, Poles visit the *Ciuchy*, open-air markets like that above, where goods from abroad are bought and sold. Foreign goods command huge prices—and most Poles come only to window-shop.

Country markets, too, are different under Communism. Where Polish pigs (famous for their high quality hams) are sold (below) livestock dealers have disappeared. Farmers now sell to one another or to the government. F.S.

They toured a nation still working to repair the damage of World War II. (The Communists had refused to allow Poland to accept American Marshall-Plan aid that helped other European countries to their feet. Since "October," however, the United States has given Poland $193 million in aid.)

The rebirth of Poland was a job for everybody. Warsaw, for example, was 85 percent destroyed. Thousands of men and women, boys and girls set to work with pick and shovel, opening paths through the debris. Broad new avenues were cut and paved. Solid blocks of office and apartment buildings line them for miles.

In some parts of the city, the rubble was too thick to be carted away. It was simply leveled and used as a foundation; new buildings perch 10 feet above the sidewalks. Some distant archeologist will find traces of successive Warsaws at different levels, like the nine cities of ancient Troy.

One place the Poles made no effort to modernize. Before Hitler, scholars, artists, and patriots had lived on or near the old market square. Marie Curie, co-discoverer of radium, had been born near by. The "Old Town" (previous page) was painstakingly restored to its prewar appearance, using 18th century paintings as a guide. This "Williamsburg on the Vistula River" gives Poles a visible link with their history.

After the war, Poland was rearranged to give the Russian conquerors a large slice on the east, and to take away from the defeated Germans a smaller piece on the west.

With the shift in territory came a shift in people the like of which modern Europe has never seen. No fewer than 8,000,000 Germans fled or were expelled from what became western Poland. And more than 5,000,000 Poles, most of them from the territory seized by Russia, moved in to take their places.

Most valuable of the lands acquired by Poland is Upper Silesia, with rich coal deposits. Thousands of Polish women and teen-age children work in heavy industry to bolster family income, which usually is meager. Women (top) unload coal cars at Bytom in Silesia.

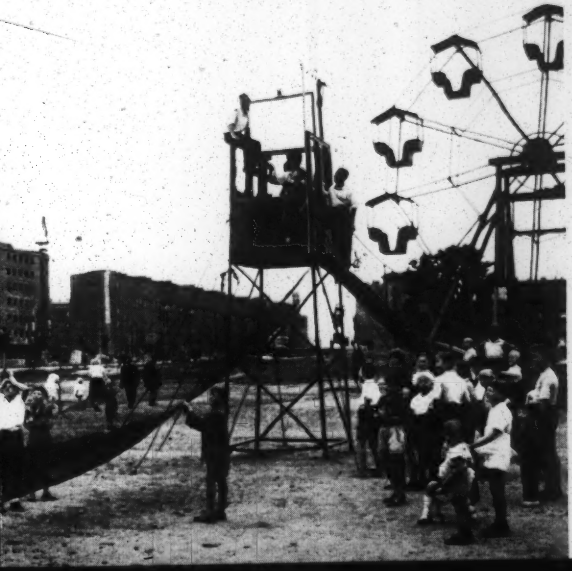
Life in Poland is hard; luxuries are few. The average family of four or five lives in two small rooms. Warsaw's giant new department stores have the air of museums, with their small stocks inside glass cases.

They are out of reach in another sense.

a Hard, Gray Life

tumes and folk songs and dances. Family celebrations —a wedding, perhaps, or a christening—call out the few luxuries Poles can afford.

To show the nation's exuberance at harvest time, 2,000 performers in native costume gather in the Tenth Anniversary Stadium in Warsaw (right), completed in 1955 to commemorate a decade free of Nazi rule.



HAPPIEST moments in the Polish mountains are connected with weddings. Parties may begin one day and spill over into the next. At right, the bride's mother, "captured" by her guests, is forced to agree to pay ransom—in this case, refreshments for all hands. The men wear traditional dress, including jackets of unbleached wool encrusted with needlework that pass from generation to generation. Women's dresses, less elaborate, are embroidered with dyed silk.

UMI

PHOTOGRAPHS BY ERIC LESSING, MAGNUM

BREAKFAST of cabbage and potatoes starts the day for this family near Gdansk (Danzig). They gather in the combination dining room-bedroom. Postwar reforms broke up large estates in the area, giving many farmers their first individually owned land. Farmer opposition to forced collectivization wrecked that Communist policy.

Polish Gaiety Spices a

ALTHOUGH LIVING space is cramped and food monotonous, Poles manage to squeeze some gaiety from their Iron Curtain life.

Farmers work much as they did 100 years ago. Mechanized equipment is scarce, so they must rely on teams of sturdy horses to pull their battered harrows.

Other carry-overs from the past are colorful cos-

PLAY GOES ON among unfinished buildings. This high-wire ride at a fair in Nowa Huta gives children a thrill for a few coppers. Apartment houses rise beyond the safety net, a token of Poland's hard work in rebuilding its cities and towns after the devastation of World War II.

in North Africa. The hardy, heavy-coated breed became famous as the monopoly of Spanish royalty, perhaps a legacy to that country from the Moorish invasion in the 12th century.

Sheep in Spanish flocks numbered between four and five million by 1770, travelers estimated. As the fame of its wool grew, the Merino became the object of intrigues and royal politics through much of Europe.

Smugglers are credited with establishing the first small flocks outside Spain. Some Merinos appeared in France about 1721, and two years later a breeding flock mysteriously arrived in Sweden.

In 1765 the Elector of Saxony, a cousin of the King of Spain, persuaded his kinsman to ship him 100 rams and 200 fine ewes. Another consignment of the same size reached him in 1778. By 1802, when Merinos were being sent to many parts of the world, the Saxony flocks totaled about four million sheep.

Other rulers—Frederick II of Prussia, Maria Theresa of Austria, and Louis XVI of France—also secured flocks.

Attempts by the English to pull their own wool over their backs met with less friendly response. Through Portugal, a few Merinos were smuggled to England. Another handful was received in exchange for eight fine horses.

But the picture changed radically after 1808 when Spanish insurrectionists joined the English against Napoleon. The rebels gave the English large flocks confiscated from Spanish noblemen, most of whom were on Napoleon's side.

By this time, Merinos had arrived in Russia, the United States, South America, and South Africa. A few, going by way of Holland and the Cape of Good Hope, had reached Australia (below) in 1797. Many countries, the United States particularly, improved the breed until it became a much greater producer than the flocks that remained in Spain. *Delaine* sheep and the *Rambouillet* are important breeds descended from the Merino and largely developed in the United States.

All Merinos have white faces and legs. Fine wool covers their bodies down to toes and noses. The white fleece has been considered golden by their owners for generations, and now Australians have developed a Merino mutant whose fleece actually is the color of gold—to match its value.

AUSTRALIANS herd a flock of sheep on a "station," or ranch, in New South Wales

PHOTOGRAPHS BY HOWELL WALKER, NATIONAL GEOGRAPHIC STAFF

A Good Provider—The Humble Sheep

LACKING the nobility of the horse and the dignity of the cow, the sheep runs a poor third among the large domesticated animals in earning man's esteem. Sometimes held in scorn even by owners and often abused in livid language by herders, the humble sheep nevertheless returns fantastic wealth to humanity in wool and meat.

In several western States there are more sheep than citizens. Argentina counts twice as many sheep as people. In Australia there are more than 13 sheep for every person. With 139,000,000 head, Australia leads the world in sheep production. Next in order come the U.S.S.R., Communist China, and Argentina (see charts below).

The lamb and mutton demands of the United States are largely supplied by domestic flocks, but large imports of fleece are required to fill the need for wool. Much comes from Australia where (right) a proud owner displays the depth of fleece on a prize Merino stud ram. This ranch (or station, as Australians call it) grazes 23,000 Merinos on 36,000 acres.

Despite his bulky look and spindly legs, the well-muscled sheep is an agile grazer. He forages over rocky ground, in semiarid regions, and in high elevations where vegetation is too scarce for cows. Because of the structure of his jaws and teeth he spoils pasture for cattle. His incisors, or cutting teeth, all lie on the lower jaw. He crops grass at the ground level, biting it off with a jerky upward motion away from the body. This sometimes brings up the roots and certainly leaves little greenery for cattle, which have no incisors at all and must chew away at grass rising well above ground.

These simple physiological facts accounted for the hard feelings and actual range wars between cattlemen and sheepmen in early days of the West. Even today, by common consent, rangelands of the two animals do not often overlap.

Texas, famous home of the cow, also makes room for 4,864,000 sheep, twice as many as runner-up Wyoming. Other western States are joined by Iowa and Ohio among the top ten. Purebred Merino sheep predominate in eastern pastures, while the western ranges support large flocks of mixed Merino pedigree.

Over the world there are more sheep of Merino blood than any other breed. How this fine-wooled animal spread to every continent is a saga of royal monopoly, smuggling, and careful breeding.

Merinos are believed to have originated

World Sheep Population

(1955-56 Count in Millions)

Australia	139
U.S.S.R.	125
China	46
Argentina	44
New Zealand	40
India	39
South Africa	37
United States	31
Turkey	26
Uruguay	23

U. S. Sheep Population

(January 1, 1958)

Texas	4,864,000
Wyoming	2,174,000
California	1,866,000
Colorado	1,756,000
Montana	1,691,000
Iowa	1,554,000
South Dakota	1,471,000
Utah	1,362,000
Ohio	1,270,000
New Mexico	1,208,000

Most striking are the lemurs, monkey-like animals that abound on the island. Although they are also found in Malaya and in Africa, they are so much a feature of the Madagascar scene that theorists believe the island is part of a long-vanished continent named "Lemuria."

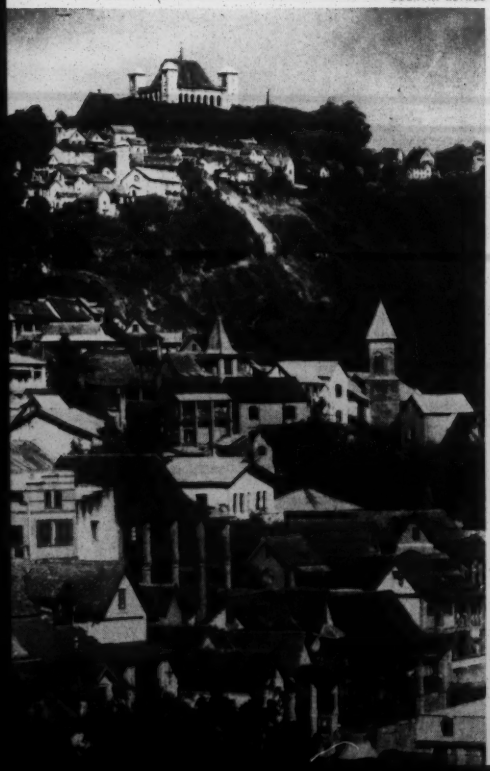
The island also offers plant oddities. The ravenala tree (right) gives the Malagasy chairs, tablecloths, and utensils from its branches and leaves. If a traveler is thirsty he simply stabs the ravenala with a sharp stick. A pint of fresh water gushes out.

From bow to stern the island measures 970 miles. A lofty plateau, split frequently by mountains, runs through the center. On the west it slopes gently down to blue water, forming coastal plains. On the east, cliffs march toward the Indian Ocean, leaving only a narrow strip of land between mountains and sea.

Fertile valleys soften the plateau, producing rice, the island's main crop. The monsoons blow from the Indian Ocean on the east, feeding a thick rain forest and crops of coffee, cloves, and vanilla. On the west Madagascar is drier, falling away on the south to a desert of cacti and aloe trees.

THREE LIONS

QUENTIN KEYNES



On the side of a mountain rising over the green rice paddies stands Tananarive, the capital (left). Clusters of bamboo huts gave the site its name: "town of the thousand villages."

A riot of African color beneath the sturdy European buildings of the former rulers, the Tananarive market offers vegetables and fruits, pots made of raw graphite, raffia furniture, thick brown discs of raw sugar, and *lambas* of muslin or silk.

France, which is easing itself out of control of Madagascar, first tried to colonize the island in the 1500's. It finally succeeded in taking over in the 17th century. In 1672 the cruelty of French rule drove the islanders to rebellion and massacre of their overlords. Several times after that, the French took charge but were driven off.

By 1896 France established control. After the collapse of France in World War II, the British moved in to prevent the Japanese from securing harbors on the island. France reclaimed its colony after the war, only to loosen its hold now.

QUENTIN KEYNES

Madagascar Shapes Its Freedom

THE ISLAND of Madagascar, which resembles a huge ship off the southeast coast of Africa, is steaming toward independence.

It joins the freedom ferment that bubbles across Africa, lighting the "Dark Continent."

Unlike the independence of Guinea (see GSB, November 10, 1958), the new status of Madagascar stems from a law of 1956 by which the French Assembly established the framework for gradual self-government.

While Guinea was throwing itself out of the French Union by voting *"non"* to De Gaulle's recent constitutional election, Madagascar voted *"oui."* Now it has declared itself a self-governing republic within the French Community. France, for the time being, will continue to control (and pay for) Madagascar's defense, foreign relations, and economic policy.

Madagascar, like other African states that have burst colonial bonds, faces the problem of molding different tribes into a unified nation.

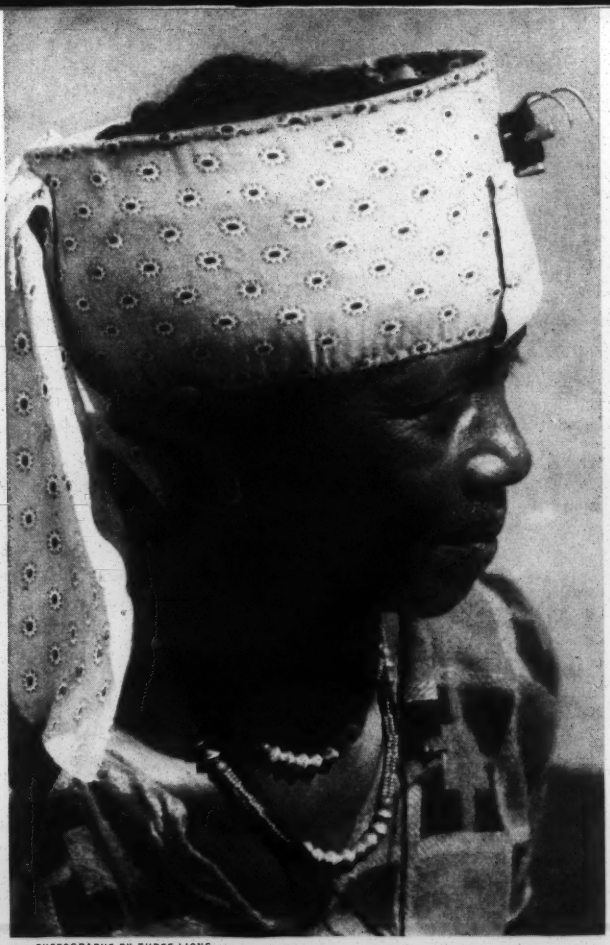
The island is the fourth largest in the world. Scattered through its area, which equals the combined size of Illinois, Iowa, Minnesota, and Wisconsin, are some 5,000,000 persons—less than the population of metropolitan Chicago. They are split into more than 20 tribes, differing in racial background and beliefs.

Through the centuries since Europeans first tried to control the island, they have fought back. Several times they succeeded in throwing off the power of the newcomers.

The tribesmen themselves are immigrants to the island. Instead of coming across the 260-mile Mozambique Channel from Africa, students believe the Malagasy (as the native residents are called) came more than 4,000 miles across the Indian Ocean, perhaps from as far away as Indonesia. Handsome and brown-skinned, they resemble the Balinese.

They wear the *lamba,* a large piece of cloth wrapped around the body and drawn over the shoulder like a Malayan sarong (see above).

Like Australia and the Galapagos, Madagascar has developed the distinctive species that often appear when a land mass is long isolated.

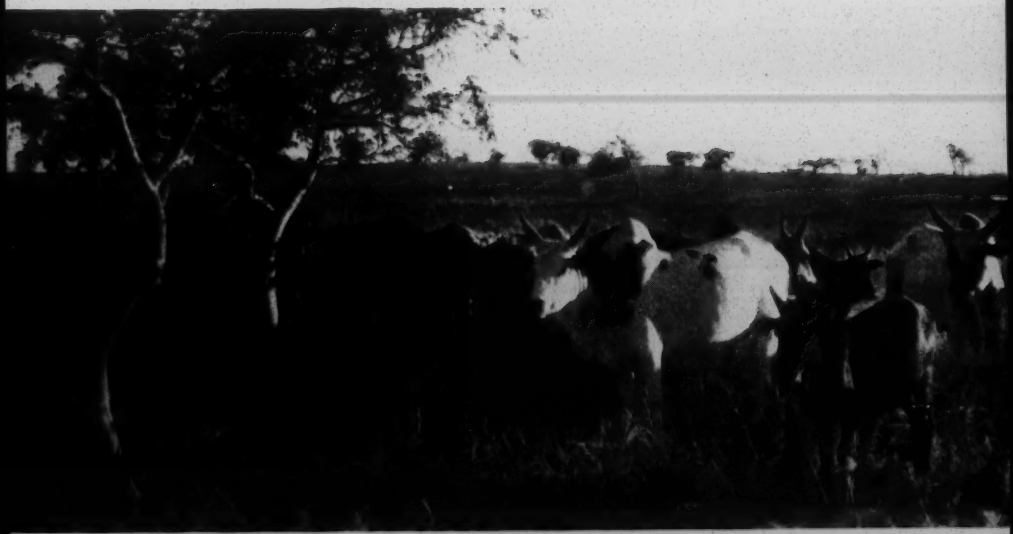


PHOTOGRAPHS BY THREE LIONS

Malagasy Measure Wealth in Cattle

This woman wears the symbol of her tribe's wealth—the primitively carved cattle head that adorns her head scarf. The tribe raises cattle on the vast steppes of southern Madagascar. Tribal life is closely linked to the herds.

Cattle have meant wealth to the island ever since the first few were brought over from South Africa. Zebu cows with gleaming white horns now number some six million—more than all the Malagasy, as the native people of Madagascar are called.

The sturdy cattle withstand rainy or dry weather, bad treatment, and disease.

As draft animals they pull overloaded wagons across rugged trails. More important, the zebu provides Madagascar with plenty of meat.